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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|------------------------|---------------------|------------------|
| 09/924,711 | 08/08/2001 | Mark Kenneth Hoffmeyer | IBM/145DV1 | 3332 |

7590

11/06/2002

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Cincinnati, OH 45202

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| EXAMINER |
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ALCALA, JOSE H

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| ART UNIT | PAPER NUMBER |
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2827

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,711

Applicant(s)

HOFFMEYER ET AL.

Examiner

Jose H Alcala

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11,12 and 19-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11,12 and 19-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: _____.

DETAILED ACTION

1. This final action is in response to the amendment filed on 6/14/02.

Response to Arguments

2. Applicant's arguments with respect to claims 12, 19-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11, 12, 19-21, 23-26, 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Werther (US Patent No. 4,750,092).

Regarding Claim 11, Werther teaches an assembly comprising: a circuit board (reference number 20); an area array bonding site on a surface of the circuit board (See top of reference number 20); and a protective cover (reference number 30) overlaying the bonding site, the protective cover being non-conductive throughout at least a region thereof that overlays the bonding site, and the protective cover removably registered to the bonding site by a plurality of posts (Reference number 31) secured to one of the protective cover and the circuit board into a plurality of apertures disposed in the other of the protective cover and the circuit board.

Regarding Claim 12, Werther teaches the wherein the protective cover includes an adhesiveless surface (The bottom surface of Reference number 30) contacting the bonding site.

Regarding Claim 19, Werther teaches a cover (reference number 30) for protecting an area array bonding site on a surface of a circuit board (reference number 20), the circuit board having a plurality of apertures (reference number 21), the cover comprising: a base member (the main body dielectric portion of reference number 33) having a first face and second face (bottom and top surfaces), the base member shaped to at least correspond to said area array bonding site (See figure 2), and the base member being non-conductive (column 5, lines 1-7) throughout at least a region thereof that is configured to overlay the bonding site; and a plurality of posts (reference number 20) coupled to the first face and registered for said plurality of apertures.

Regarding Claim 20, Werther teaches that the first face (bottom surface of Reference number 82) of the base member further includes a recess (reference number 33) corresponding to said area array bonding site.

Regarding Claim 21, Werther teaches a graspable extension (the portion of pins reference number 31 that extend from top of the cover) coupled to the second face of the base member.

Regarding Claim 23, Werther teaches that the plurality of posts are secured to the protective cover, and wherein the plurality of apertures are disposed in the circuit board (See Figure1).

Regarding Claim 24, Werther teaches that the protective cover is formed of a non-conductive material (column 5, lines 1-7).

Regarding Claim 25, Werther teaches that the protective cover is formed of epoxy glass (column 5, lines 1-7).

Regarding Claim 26, Werther teaches a graspable extension (the portion of pins reference number 31 that extend from top of the cover) disposed on a surface of the protective cover opposite that which overlays the bonding site.

Regarding Claim 29, Werther teaches that the protective cover further includes a recess (Reference number 33) overlaying the bonding site.

Regarding Claim 30, Werther teaches that the protective cover is formed of a non-conductive material (column 5, lines 1-7).

Regarding Claim 31, Werther teaches that the protective cover is formed of epoxy glass (column 5, lines 1-7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Werther (US Patent No. 4,750,092) in view of Switky (US Patent No. 5,413,489).

Regarding Claims 22 and 27, Werther teaches all of the elements of the instant claimed invention as stated supra for claims 11 and 19, but fails to explicitly teach that each of the plurality of posts includes a diametral slot.

Switky teaches a printed board having a cover (reference number 24) attached to it through a plurality of posts (reference number 46) including a diametral slot.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Werther and Switky in order to have a plurality of posts including a diametral slot, thus enabling the protective cover to be more easily detached and re-attached to the circuit board.

7. Claims 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Werther (US Patent No. 4,750,092).

Regarding claims 28, Werther teaches all of the elements of the instant claimed invention as stated supra for claims 11, but fails to explicitly teach that the protective cover has a thickness of about 0.006 to about 0.008 inches. It is well known in the art to reduce the thickness of elements or layers in order to improve integration in semiconductor devices or packages. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to make the protective cover having a very small thickness of about 0.006 to about 0.008 inches in order to improve integration in semiconductor devices or packages. In addition, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233.

Regarding claims 32, Werther teaches all of the elements of the instant claimed invention as stated supra for claims 19, but fails to explicitly teach that the base member has a thickness of about 0.006 to about 0.008 inches. It is well known in the art to reduce the thickness of elements or layers in order to improve integration in semiconductor devices or packages. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to make the base member having a very small thickness of about 0.006 to about 0.008 inches in order to improve integration in semiconductor devices or packages. In addition, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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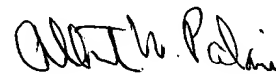
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose H Alcala whose telephone number is (703) 305-9844. The examiner can normally be reached on Monday to Friday.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JHA
November 4, 2002

 11-4-02
ALBERT W. PALADINI
PRIMARY EXAMINER